

CLAIMS

1. A turbomachine having a sealing device between the turbine rotor (1) and the inner casing of the combustion chamber, said turbine rotor comprising firstly, a turbine disk (3) presenting an upstream clamping annulus for fastening it to the downstream cone of a compressor and, secondly, a flange (5) that is disposed upstream from said disk and spaced apart from said disk by a cavity, said flange having an inside bore that is traversed by the upstream clamping annulus of said disk and an upstream clamping annulus so it can be fastened onto said downstream cone, a first air circuit secured to said inner casing in order to deliver a first flow of cooling into said cavity (12) via main injectors (15) and holes (11) made in said flange, said sealing device comprising a discharge labyrinth between the downstream cone and said inner casing, a main under-injector labyrinth disposed between the flange and the inside wall of the first air circuit, and at least one over-injector labyrinth disposed between the flange and an annular structure (27) provided between the outside wall of the first air circuit and said inner casing, a second flow of cooling air flowing inside a second circuit that is defined by the enclosures that are delimited by said inner casing and said rotor, via said labyrinths, and being evacuated in part in the upstream venting cavity (20) of said disk, said turbomachine being characterized by the fact that, downstream from the main injectors in the flow direction of the second flow of cooling air, the sealing device comprises at least three labyrinths (31, 32, 33) that are radially spaced apart, being disposed between the flange (5) and the annular structure (27).
- 35 2. A turbomachine according to claim 1, characterized by the fact that each of said three labyrinths comprises a single wiper.

3. A turbomachine according to claim 1 or claim 2,
characterized by the fact that one of the annular
cavities (35) lying between two consecutive labyrinth
5 (32, 33) out of said three labyrinth is fed by cooling
air coming from the second circuit upstream from the
under-injector labyrinth.
4. A turbomachine according to claim 3, characterized by
10 the fact that the flow of cooling air is set into
rotation in the same direction as the rotation of the
rotor by the secondary injectors.
5. A turbomachine according to claim 4, characterized by
15 the fact that the secondary injectors are made in the
form of sloping holes (38) formed in the annular
structure (27).